

AMENDMENTS TO THE CLAIMS:

1.-62. (Cancelled)

63. (Currently Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:
a first end portion and an opposite second end portion;
a first bone engaging surface;
a second bone engaging surface;~~and~~
a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave outer surface extending axially between said first and second end portions; and
a second sidewall arranged opposite said first sidewall and extending between said first and second bone engaging surfaces, wherein said second sidewall comprises a convex outer surface extending axially between said first and second end portions; and
wherein said concave outer surface of said first sidewall extends generally parallel with and is positioned opposite said convex outer surface of said second sidewall to provide said elongate bone portion with a generally crescent shaped cross-section in a plane including the longitudinal axis.

64. (Previously Presented) The implant of claim 63 wherein the concave surface is arcuate.

65. (Previously Presented) The implant of claim 63, wherein said bone portion is formed from a donor bone segment having at least a portion of a medullary canal and the concave surface defines a portion derived from the medullary canal.

66. (Cancelled)

67. (Currently Amended) ~~The implant of claim 63 comprising~~ A spinal fusion implant, comprising:

an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:

a first end portion and an opposite second end portion;

a first bone engaging surface;

a second bone engaging surface;

a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave outer surface extending axially between said first and second end portions; and

a second sidewall arranged opposite said first sidewall and having a substantially planar portion defining a flat outer surface extending between said first and second bone engaging surfaces and axially along a length of said elongate bone portion between said first and second end portions; and

wherein said concave outer surface of said first sidewall is positioned opposite said flat outer surface of said second sidewall.

68. (Cancelled)

69. (Previously Presented) The implant of claim 63 wherein the first bone engaging surface is substantially crescent shaped.

70. (Currently Amended) The implant of claim 63, wherein at least one of the first and second bone engaging surfaces includes ridges or teeth.

71. (Previously Presented) The implant of claim 63 wherein the first bone engaging surface and the second bone engaging surface are substantially planar.

72. (Currently Amended) ~~A spinal fusion implant, comprising:~~
~~an elongate bone portion defining a longitudinal axis and having a generally rectangular~~
~~cross-section transverse to the longitudinal axis, said bone portion comprising:~~
~~a first bone engaging surface;~~
~~a second bone engaging surface; and~~
~~a first sidewall extending between said first and second bone engaging surfaces, wherein~~
~~the first sidewall comprises a concave surface; and~~ The implant of claim 63 wherein the first
bone engaging surface and the second bone engaging surface are separated by a first height
adjacent to a first end and by a second height adjacent to an opposite, second end, wherein said
first height is greater than the second height.

73. (Previously Presented) The implant of claim 63 wherein the first bone
engaging surface and the second bone engaging surface are adapted to matingly conform to
opposing endplates of adjacent vertebral bodies.

74. (Previously Presented) The implant of claim 63 wherein the first sidewall
comprises a first substantially planar surface adjacent the concave surface.

75. (Currently Amended) ~~The implant of claim 63, wherein~~ A spinal fusion
implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular
cross-section transverse to the longitudinal axis, said bone portion comprising:
a first end portion and an opposite second end portion;
a first bone engaging surface;
a second bone engaging surface; and
the a first sidewall comprises extending along a length of the elongated bone portion and
comprising a first substantially planar outer surface adjacent said first end portion and a second
substantially planar outer surface adjacent said second end portion, said first and second
substantially planar outer surfaces extending between said first and second bone engaging

surfaces and axially along the longitudinal axis, the first sidewall further comprising a concave outer surface extending axially between said first and second substantially planar surfaces and between said first and second bone engaging surfaces.

76. (Previously Presented) The implant of claim 63 comprising a first endwall positioned between the first and second bone engaging surfaces, wherein the first endwall is adapted to engage an implant holder.

77. (Previously Presented) The implant of claim 76 wherein the first endwall comprises a recess or a projection to engage an implant holder.

78. (Currently Amended) ~~A spinal fusion implant, comprising:~~
~~an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:~~
~~a first bone engaging surface;~~
~~a second bone engaging surface;~~
~~a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and~~
~~a first endwall positioned between the first and second bone engaging surfaces, The~~
implant of claim 76 wherein the first endwall is adapted to engage an implant holder and comprises a recess extending to the concave outer surface.

79. (Currently Amended) ~~A spinal fusion implant, comprising:~~
~~an elongate bone portion defining a longitudinal axis and having a generally rectangular cross-section transverse to the longitudinal axis, said bone portion comprising:~~
~~a first bone engaging surface;~~
~~a second bone engaging surface;~~
~~a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and~~

~~a first endwall positioned between the first and second bone engaging surfaces, The implant of claim 76 wherein the first endwall is adapted to engage an implant holder and comprises a bore extending substantially parallel to the longitudinal axis.~~

80. (Previously Presented) The implant of claim 79 wherein the bore is threaded.

81. (Currently Amended) ~~A spinal fusion implant, comprising:
an elongate bone portion defining a longitudinal axis and having a generally rectangular cross section transverse to the longitudinal axis, said bone portion comprising:~~

~~a first bone engaging surface;~~

~~a second bone engaging surface;~~

~~a first sidewall extending between said first and second bone engaging surfaces, wherein the first sidewall comprises a concave surface; and~~

~~a first endwall positioned between the first and second bone engaging surfaces, The implant of claim 76 wherein the first endwall is adapted to engage an implant holder and comprises a recess defining a groove extending substantially parallel to the longitudinal axis.~~

82. (Currently Amended) A spinal fusion implant, comprising:
an elongate bone portion defining a length ~~along~~ extending along a longitudinal axis and comprising:

a first sidewall comprising a concave outer surface extending along the length;

a second, ~~opposite~~ sidewall opposite said first side wall and comprising a convex outer surface extending along the length; and

wherein the convex outer surface of said second sidewall is positioned opposite and is arranged generally parallel to the concave outer surface of said first sidewall to provide said elongate bone portion with a generally crescent shaped cross-section in a plane including the longitudinal axis;

a first bone engaging surface positioned between the first and second sidewalls; and

a second bone engaging surface opposite the first bone engaging surface;
~~wherein at least one of the first or second bone engaging surfaces comprises ridges or teeth.~~

83. (Currently Amended) ~~A spinal fusion implant, comprising:~~
~~an elongate bone portion defining a longitudinal axis and comprising:~~
~~a first sidewall comprising a concave surface;~~
~~a second sidewall comprising a convex surface generally parallel to the~~
~~concave surface;~~
~~a first bone engaging surface positioned between the first and second~~
~~sidewalls;~~
~~a second bone engaging surface opposite the first bone engaging surface, The~~
~~implant of claim 82 wherein at least one of the first or second bone engaging surfaces~~
~~comprises ridges or teeth; and~~

a tool attachment end is positioned between the first and second bone engaging surfaces,
said tool attachment end comprising a recess extending substantially parallel to the
longitudinal axis from the tool attachment end to the convex surface.

84. (Currently Amended) A system for spinal fusion of adjacent vertebrae, said
system comprising a pair of the spinal implants of claim 63, ~~each of said spinal implants~~
~~comprising:~~
~~an elongate bone portion defining a longitudinal axis and having a generally rectangular~~
~~cross-section transverse to the longitudinal axis;~~
~~a first end portion and an opposite second end portion;~~
~~a first bone engaging surface;~~
~~a second, opposite bone engaging surface;~~
~~a first sidewall extending between said first and second bone engaging surfaces, said first~~
~~sidewall comprising a concave portion extending axially between said first and second end~~
~~portions; and~~

wherein said pair of the spinal fusion implants are positioned in an intervertebral space

whereby the concave ~~portions~~ outer surfaces of said pair of spinal implants face one another to define a chamber.

85. (Previously Presented) The system of claim 84 wherein the chamber comprises an osteogenic material.

86. (Previously Presented) The system of claim 84 wherein the implants do not contact each other when positioned in the intervertebral space.

87. (Previously Presented) The system of claim 84 wherein the implants are positioned to lie at an angle oblique to each other.

88. (Previously Presented) The system of claim 84 wherein each of the implants comprises a tool attachment end positioned posteriorly in the intervertebral space.

89. (Previously Presented) The implant of claim 63 wherein the elongate bone portion has a generally rectangular cross-section in a plane including the longitudinal axis.

90. (Cancelled)

91. (Currently Amended) The implant of claim ~~90~~ 63 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the first end portion.

92. (Currently Amended) The implant of claim 91 wherein ~~the crescent-shaped cross-section includes a concave edge~~ said concave surface is disposed between a first substantially straight edge and a second substantially straight edge, said first and second straight edges extending generally parallel to the longitudinal axis.

93. (Cancelled)

94. (Currently Amended) The implant of claim ~~90~~ 63 wherein the crescent shaped cross-section terminates in a substantially straight edge adjacent the second end portion.

95. (Currently Amended) An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:

a first end portion ~~having a tool engaging recess~~ and an opposite second end portion, said first and second end portions arranged along a longitudinal axis;

a first bone engaging surface and an opposite second bone engaging surface, each of said bone engaging surfaces being planar;

a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end portion and the second end portion ~~and extending from the first bone engaging surface to the second bone engaging surface~~, said cavity ~~defined by~~ defining a concave outer surface extending axially between the first end portion and the second end portion and from the first bone engaging surface to the second bone engaging surface; and

a second side wall opposite the first side wall and disposed between the first bone engaging surface and the second bone engaging surface, said second side wall defining a convex outer surface disposed between the first end portion and the second end portion; and; ~~wherein said implant has a generally rectangular cross-section parallel to the first end~~

wherein said concave outer surface of said first side wall extends generally parallel with and is positioned opposite said convex outer surface of said second side wall to provide the implant with a generally crescent shaped cross-section in a plane including the longitudinal axis.

96. (Previously Presented) The implant of claim 95 wherein the first bone engaging surface and the second bone engaging surface are substantially parallel.

97. (Currently Amended) ~~The implant of claim 96 wherein~~ An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:

a first end portion and an opposite second end portion, said first and second end portions arranged along a longitudinal axis;

a first bone engaging surface and an opposite second bone engaging surface, each of said bone engaging surfaces being planar;

a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end portion and the second end portion, said cavity defining a concave outer surface extending axially between the first end portion and the second end portion and from the first bone engaging surface to the second bone engaging surface; and

~~the~~ a second side wall arranged opposite the first side wall and disposed between the first bone engaging surface and the second bone engaging surface, said second side wall comprises comprising a substantially planar portion defining a flat outer surface extending between said first and second bone engaging surfaces and axially between the first end portion and the second end portion along the longitudinal axis; and

wherein said concave outer surface defined by said first side wall is positioned opposite said flat outer surface of said second side wall.

98. (Previously Presented) The implant of claim 96 wherein the second side wall comprises a curved portion.

99. (Previously Presented) The implant of claim 96 wherein the first bone engaging surface and the second bone engaging surface include ridges or teeth.

100. (Currently Amended) The implant of claim ~~96~~ 95 wherein the first end portion ~~has a tool engaging recess~~ comprises comprising an opening to engage an implant holder.

101. (Currently Amended) ~~An implant for implantation in a disc space between adjacent vertebrae, said implant formed of bone and comprising:~~
~~a first end and an opposite second end;~~
~~a first bone engaging surface and an opposite second bone engaging surface;~~
~~a first side wall disposed between the first bone engaging surface and the second bone engaging surface, said first side wall having a cavity disposed between the first end and the second end and extending from the first bone engaging surface to the second bone engaging surface; and~~
~~a second side wall opposite the first side wall, wherein said implant has a generally rectangular cross section parallel to the first end; and~~ The implant of claim 95 wherein the first bone engaging surface and the second bone engaging surface are separated by a first height adjacent to the first end portion and by a second height adjacent to the second end portion, wherein said first height is less than the second height.

102. (Previously Presented) The implant of claim 101 wherein the first bone engaging surface and the second bone engaging surface include ridges or teeth.

103. (Currently Amended) The implant of claim 95 100 wherein the tool engaging recess comprises a slot extending to the cavity.

104. (Currently Amended) The implant of claim 95 100 wherein the tool engaging recess comprises a slot extending along the second side wall for engaging an implant holder.

105. (Cancelled)

106. (Cancelled)